



OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/990,613

DATE: 02/21/2002

TIME: 12:00:54

Input Set : A:\UC072.001A-SEQ-ID.txt
 Output Set: N:\CRF3\02212002\I990613.raw

4 <110> APPLICANT: Wu, Reen
 5 Chen, Yin
 7 <120> TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE
 8 ANALYSIS OF MUCIN GENE EXPRESSION AND IDENTIFICATION OF
 9 DRUGS HAVING THE ABILITY TO INHIBIT MUCIN GENE EXPRESSION
 12 <130> FILE REFERENCE: UC072.001A
 14 <140> CURRENT APPLICATION NUMBER: US 09/990,613
 15 <141> CURRENT FILING DATE: 2001-11-21
 17 <160> NUMBER OF SEQ ID NOS: 34
 19 <170> SOFTWARE: FastSEQ for Windows Version 4.0

Does not contain
corresponding sequence

ERRORED SEQUENCES

157 <210> SEQ ID NO: 6
 158 <211> LENGTH: 22773
 159 <212> TYPE: DNA
 160 <213> ORGANISM: Homo sapiens
 162 <400> SEQUENCE: 6
 163 ggtacccctg gttgtgcctg tcgctcagtg ggccagggtc taagggttgtt gaagactcaa 60
 164 catcccccca cctgtactt ctgaacacca ggcactggct ctgagacccc cggcccttgc 120
 165 tggacatctc cccaggtgta ctggggccagg ggacaggggc ctggccatcc caacacccag 180
 166 gagcaagcag cccgtcacct gcccagggtcc cccggcccg gaacaccccttc ctgtctggcc 240
 167 caccctggcc tggacctgtc cccgttggcc acacatggg accctcgccc catcagcagg 300
 168 tgagccccca ggagcgtgctg tctggcttgg taaggcctcc accccaggag ttggggggcc 360
 169 cccgtgccag ggagcaggag gtcggcagg tggagggtcc cacacagcta ccactcccta 420
 170 tccccagcac agcctggggc ctggctctga gtacacatcc tggggccttg ctctgagcag 480
 171 accaagagcc catccctgct ttgtgacccc ctggctgtt cctgacaccc cagggttcca 540
 172 gcgtggagct gggggccagc tcagtgcctg ggagctgtat gaccctgggg cccggcttag 600
 173 tgcctgggtt ctgatggaca ctggggcctg gtcacaaacctt gtcaccgtgtt ggtcgaaaa 660
 174 gggggggctt gagccacgtt gggaaacccag ccccaactgtac gactctttgc ggtggccaa 720
 175 ccctccagggt gtccccccagg gtcgggggc tgggttggg gtcacgtgtt acaggatgt 780
 176 gtggccctga tcactgggtc ctggacggcc tctgtgggg tctgtgggg tctggacggg 840
 177 tccccattca tggcaggatt aaccccccctt gggttctgtt tggccaggc ccccccctt 900
 178 tctccactgc cccctggcca gaatgaggga cagtacccca cccagggtctt ggcctggctc 960
 179 agactccgtc agagccgcag ggcaagttcc tggcacgtcc gaggtggggag gtcctcttc 1020
 180 gctccaggag gtcgtgcctg gcccccccttc ccggcaggaa ccggctgtgt ccctttccctt 1080
 181 ccttttatctt ctgttttcag cgccttcaac tgtgaagagg tgaactcttc aaacacgtt 1140
 182 agcaaacagg cccgactccc aggggcccat ccggatgtc tcaatagctt tggccttgac 1200
 183 gtccacactcg gaccctgtcc ccggacccag cccagttccc aatggggccctt ctggccgggg 1260
 184 aggtgcctag tgggagggac gaggcaaaq tcggggccccc cacttgggtt ggtcactgt 1320
 185 gtgccagcgg ccactggcgg gcgaggctgt tccagggtgg aggccggggag gttggacca 1380
 186 caggcactga gccccccacag aggagctgcc tgagggtcccc agctctgcac tggagaaaac 1440

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/990,613

DATE: 02/21/2002

TIME: 12:00:54

Input Set : A:\UC072.001A-SEQ-ID.txt

Output Set: N:\CRF3\02212002\I990613.raw

187 gctatctcg tcatgcagag gtgccccggc cactcgagct gggggtgagg gggctgtcc 1500
 188 ccagtggccc gccagcccc atgaaggccg cgggcaccgg ccgtggtcag ggagggcagg 1560
 189 gacaggcag tggggccag caggggagac actaggctt gccccagcac ccaggtggc 1620
 190 atcggcttgt gagctggagc cgcggcagg gagggggat gtcacgaggg ctggctaa 1680
 191 gtgggagacc tggcggtt cgtcggggg acgtctcgag cagaggctt ggcagcaggc 1740
 192 acacccctcc tgccagtgcg aggaacgagg cgccacagcg gccggtagcc cccatttc 1800
 193 ccagcctggc ctggagcagg caggaaggcc ggggagaggg gtctggctgg ggcctgggt 1860
 194 cagtcacage cacgagccca ggggtgggca ctctggccca cccttcagac catgtcaag 1920
 195 gcccactggc ccaggcatgc cgcacccccc ttccaccgtt ccgtgtcgca gcgggtctac 1980
 196 cggcctggat gtgaaagaga gcttggagac cccagagacc tcggaacctt cagctttgga 2040
 197 agtgcacgtcg gtgggggtggg tggggggagc acaggtctt gagtcccgga agtgcagcggg 2100
 198 gagctacgtt gagatctggg agacccctt ccccccacca ggtacagggc caggcagaag 2160
 199 cccgaggtgt gcccctgattt aaagaaaaccg tcacaaagaa caaagggaga aggcgggttc 2220
 200 cagcctgcac cacagccctc ggcgtcttgcg gagccacccgtt gggcgttccatgagggg 2280
 201 tgacaggtgg caaaaacggc cagtcctgtt cacgtcgctg tgcaatgttc tccggccctc 2340
 202 catctccaga acgttctcac attcccaagc tgaacccttgc tcccatgtca acaccagctc 2400
 203 accatccctt ctgcacggcc ctggcgccca cgcgtccacac tccgtcttgc cgggttccat 2460
 204 gactccaggg gcagcacacg agtggccctt ctcgttttgc tccatgtgtt ccacccgtt 2520
 205 cactctgcac agtgcacccca gttcccccata tggagcagcc tggggccagcc ctccttttc 2580
 206 acggctgaac cgtattccac cgcacggatc agcgtccacgc tgctgacccca gtcctccgccc 2640
 207 cagggacaca tggcgacgtt ctgcgttttgc tcaatgtgtc tgctgtggac atgggtgtgc 2700
 208 aaatgtccctt caggacccgc cttcgttttgc tctggggaca gacccagagt ggagttgt 2760
 209 gtcaccccca ccagcaggcc acagggtctt ggtcccccac gtctctggca acacttccta 2820
 210 cttcctgtgt ttcttgcattt cccatgggg cggacggagg ccacaccacc cgcactgggt 2880
 211 agatgggtt tcgttgcattt ccaaaaaatcc cacccttaatggaa aattttactt cagaaagaca 2940
 212 aacgcgggggg agtgcgtgc gggccctgtt cggggactgt gacgtaaata aaacaacaga 3000
 213 cttggacacc acccttagggt cccatgggg cggacggagg ccacaccacc cgcactgggt 3060
 214 cttcctgcctt ggcgtctgcg ccacggagca ttccggacgc tggtgaccag ggagccagga 3120
 215 gttgggagca tctgggtgc aggtcacacg ggcaggaggt gtttgcaga ggtattgcag 3180
 216 cgcggacggc gtgtccctgc gatgcacgtt tctgtctgtt agatgcacgtc cgtcaaggag 3240
 217 gtttaccaca tagccccccgg gaagccccacc caacaccaggc cggaggtgtt aggcttctgc 3300
 218 gtcacccacc tggggcaggcc ggaggacccc gggcagggtcc aggacccccc ggagccagctg 3360
 219 cttcctcaac ctcgtccagg ttaatgagga gccccccatggc tgaggtggag gccaaatggg 3420
 220 actcaggccc ggagcctctg gcctggctgg atcagggttgc gatggaca agcgcacgtt 3480
 221 actcccgatg tgcattggcca ggagacactt tggccatgtt tttcccttgc aatgtgaacc 3540
 222 ttgaaacaga tcagccca gacccatgggg cgtttcaatgggtt cagttgggtt 3600
 223 ggggtctctt gaaatagac ctcctccagg gaccccccaca agccacccatggcactgac 3660
 224 ctggccatgt gcatgccttgc gtcacggagg agecctggccgg gtcacccctgtt ggctaaaggc 3720
 225 tgggtggagg ggagctccat ctcgtggcc ctcgtggccgg ctcgtggccat ccatgggtt 3780
 226 tggctgggggg tgcgtccatggat tcccttccatggc caggacccgc agtggggctt 3840
 227 agtgcgtggc aggtgtggctt accactgtttt ccatggaccc tgcgtccatggc gccagccctt 3900
 228 cttccatgtt gtcacccatgtt ctagggacggc tgccagggtgg ggtaggccct tcttcctt 3960
 229 cccatgttca gaaggtgtt ggggtgggg cgtctggcc ctcgtggccat agacgttgc 4020
 230 atccttccttgc atccaggccctt ctcgtccatggc acaccccttcc cccatggccat aacacacgtt 4080
 231 gtcggagcc ggaagagccat gtcggcccttgc gtggccatggc ctggcttggg gccaaggatc 4140
 232 ctcgttgcat aagtcggggc cccatggggc gcaaggccat ggcggccatc ctcgtccatggc 4200
 233 ctcgtccatgtt cccatggggc tgcgtccatggc caggatgggtt gcccggccat cgtccatggc 4260
 234 gtcggatgtt gtcgtccatgtt ctcgtccatggc ggtggccatggc gcaaggatc gcccccactt 4320
 235 cccatggccatgtt tcgttgcgtt ctcgtccatggc ggggtcttgc ctcgtccatggc 4380

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/990,613

DATE: 02/21/2002

TIME: 12:00:54

Input Set : A:\UC072.001A-SEQ-ID.txt

Output Set: N:\CRF3\02212002\I990613.raw

236 ttctcctgca gagtgacacgg gcagatcccc ctacgactcc ctgagtgtcc tggatggac 4440
 237 cctaccgcgc cccaaacacag ggctctgggg ccccacggc tcacagtgtc agggaaactca 4500
 238 ggggtggct tggatggggt gtccaggaga aggtgggccc ctgaccgcag ggcaaggccc 4560
 239 ctgggagacc accgaaaaggg tcttgggtt ggggtggga caggagtggg caatggggga 4620
 240 gggggtcaca gctggggc tcctctggagc cccatgaggc ccaggcatca gagtgagcag 4680
 241 gggcaggctt agcgtggacc cctgtccagg accgctcta cccttcacga cctccctggg 4740
 242 gatcacagct ggcaggcag gtgagggtac cgggacccct caagggttgc acagccagcc 4800
 243 gcaagagccc cggcctcaac ccacgctcga ctcccacggc ccatctgtgg gcatctcatg 4860
 244 cgcacggc tgccctggc tcagccgagc gtttccctc gtctgtgtc tcttggccag 4920
 245 agccgcagca ttaatactta ctgtcaatag agaaagatgc agccccaggg gccaccggga 4980
 246 gacacccagc caggctggcc atgaggctgc tgcaagccct ccctgccccg ccctccgccc 5040
 247 ctcccaagc ttggggtctg ggctgggcag gtgagggtcc ctggggtctc tctccatctg 5100
 248 tggaaaggag gctgggttgt cagcagggtc ggaggcaggg ggcttcccccc agtggctccc 5160
 249 agcctggggc cggggggagc tgcgtctggc tgcaagggtt gggggcttgtt ttgaccagaa 5220
 250 tagccaccc tcgtcatctg attcttccgg gcatgcgc cttggctccc ctcacctgag 5280
 251 caggcaggc ctaggactc tcagcccaacc cgtccctctg tcctccacgc acgtccaagt 5340
 252 tggggagatc aagcccttgg cagggactgt gcttagtca ccagatgcac gtcctgtggc 5400
 253 cggggaaagc agccctgcac agagcagctt catgttaggg gacacacccc aaagtgtatgg 5460
 254 ggtggcttgtt ggtgggcact tctctggcta caagatggag gcccagggtt tccagccaa 5520
 255 ggagggcaact gcacggagca gataaccaag ggcagtcgc ctgggcaggg gaggggctgc 5580
 256 ctgggggggg ggggttgctt ggggtgggg ggggtgtct ggggcagggg aggagctgcc 5640
 257 tggggcgggg gaggggctgtt agggccaggg agggctgcc tggggcttgtt gaggggctgc 5700
 258 tgggggtgggg aggggctgcc tgcggcggg gcccggcgt gggaggttgtt ggttgggctg 5760
 259 gcacacaggg gcagggttgtt gagctgtggg tcgggttgaa ggactcaggg atcggctggc 5820
 260 tttctgggaa aggcaactaa cctggatctc tggaggcggc ccctgttgtt gttcccat 5880
 261 gtcagcagga cctggctgaa aagccaggc agggccaggc cagagtgcga accacaggc 5940
 262 cggccctcg ctgagccctg accatgctt tggggctgg ggcctcacct cccacctccc 6000
 263 cacagagatc ctcagatcgatcc gatccaggaa ggagctctgg gtcctgtga agggggcgcc 6060
 264 ccaacccaaa ctggcagac aatggccggg gtcctcaga gtcctgttgtt ttggagctgc 6120
 265 ctccctcccg cctccatggg gttgggttgtt gaggcctgc ccggaggcgg tggtcagcct 6180
 266 gggggacatt gggcgccat cccagtatca acggccacac agcttgcgcg gcccagagtc 6240
 267 ctgccccccag cctgccccac tgcggctgac ttagatcta gttcgaaact gtttctgtgt 6300
 268 ttaggtttct gctaagtcaac gcctggaaagg ctccaagtgt gtcctcctaa caaagcttgtt 6360
 269 ctttgcctt ctccaaggga tgtgtggat gggcgaaat ccccccttgg ggcggccaac 6420
 270 gccttttcctt gattccattt tctccccat cccttgagaa ggaggcacca tccccgcctg 6480
 271 tcagtcgggg acagggtcagg ccgtgttgtt ggcagctcag gtcctcctgc tggaaagcttc 6540
 272 catcccgca gctttccata gatttgcaggc ggagcggagg catctgcggc tgacgggttgg 6600
 273 gttggctgca gcccgtgggg aggagtcccg gccttggca cagtgtgtcg tgaggggtgaa 6660
 274 cctgcaggcc atggagaccc ccaccaagga ccccacatgc ggctggccca ccaggatgt 6720
 275 gcccagggtcc ttgggtgggt tgcgttgtt cagccacatc tagttcctca ctgactccca 6780
 276 ttccttcctt ccacagagac ccaggccctt gtggagccga gtcggggaa tgcaggcgcac 6840
 277 accatggatg gcccgtatgtt gcaaggatgtt ggggtgggg gttcctgacc aggctggagg 6900
 278 gcttggaaatt ttgggtgggg caggcagacg cctctccaag cagccatgcg tctgacagag 6960
 279 accctccctg gtcctcctgc ccaggacaat acccagcacc cgaggcggag cttggctgtc 7020
 280 caaagaagag gaaagtgcag agcagagaga catgcacaca gaagcacacg cgtggacagg 7080
 281 cacatgcgtg cccacactta cactggcaca cacatgtgtt cacacacagg ccaaaacaca 7140
 282 agggcagcag tttttgtggg gcagacagg ccaaggtaa aggggctgcc ttggcccccag 7200
 283 cccatcgtt ttgggtctcc cttcaactct ggtggctggc gaggagggtt ggccccgggg 7260
 284 aggggtgtctc tgcttccctt tcctggccac gttcctgggg tgaccagcct tcaccacag 7320

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/990,613

DATE: 02/21/2002

TIME: 12:00:54

Input Set : A:\UC072.001A-SEQ-ID.txt

Output Set: N:\CRF3\02212002\I990613.raw

285 gtgccccgac gtcctcgccc acccggcgcg tgagcttgc tccaccgcgtc actgtttcc 7380
 286 ccagcctgag ccgtaaagcag atgtcgcccc tgccagccgg gaagggggtg tttgccagtc 7440
 287 ccaaagggtg gggcccaat ctagggggtgc agctgccacc aggtggggcc gttggggccag 7500
 288 accccagatc ctccgtgtgg gcggctctct ggtcaactggc caccctgggg gatggggacg 7560
 289 ggtcagggtt cttggagcaa aacagacgca gtccagggtg agccaggcag ggcacacgca 7620
 290 gcagccgacc atggctttt ccattccaaa aaccagggtg cctcgccca ggggaggcta 7680
 291 cccccgtgggg ggctggcatg gggatgggg tcatcccgcc ctccccacag ccctgaaccc 7740
 292 ggccacaat gggccgggtg gcagcacccg gggtaacttc cactacaaga ccttcgacgg 7800
 293 cgacgtcttc cgctccctg gccttgcaa ctacgtgttc tctgagact gccgcggccgc 7860
 294 ctacgaggac ttcaacgtcc agctacgccc aggcttagtg ggctccaggc ctgtggcac 7920
 295 ccgtgttgc atcaaggccc aggggtctgt gctgaaggcg tccaacggct ccgtcctcat 7980
 296 caatgggcag cggtgagccg gccaccctgg ggagggcga gggccggggcc acacagtgtg 8040
 297 acctccccac acggccatgt ctgacctggg ccagggtctgg ggtgggggtg ggtgggcagg 8100
 298 cagccaggag agcggggccc agggagagac cccgctgtct gcgcaggagg gagctgcctt 8160
 299 acagccgcac tggccctctg tggtggcaga gccccggacta catcaaggcc agcatccggc 8220
 300 tggtgtctgac attccctgtgg aacggagagg acagtgcctt ggtgaggaag cccctcgcc 8280
 301 ctttgcctt tcaggccctgg ccacaaaacc cccacccgggg gtcgagggat gcctccctgg 8340
 302 gcttggggtc acggggcttg gggcatgttg ccagtgggg gatcagaggt cctgaggctg 8400
 303 gagctgcccc tccccactct cagctggagc tggatcccaa atacgccaac cagacctgtg 8460
 304 gcctgtgtgg ggacttcaac ggcctccccc cttcaacga gttctatgcc cacagtgtg 8520
 305 gccacactggg tgagggggcg gtgaccaatt atgtcgccca acgaagagcc acagtcccg 8580
 306 ggaggccggg agggggccga tggtggaccc ggcaccaggc agggaggggc cacgaggact 8640
 307 gtgccttaca tgggtggagg agtgccttc ggggtgttg gccccttaggc aggaatggga 8700
 308 gtcctctggc ctggctcag gaagtggggag cccatatctt gtcccccagga gcccctcaga 8760
 309 gccaccacac ccctgcttcc ttccccggcag acgcaggct gaccccgctc cagttggga 8820
 310 acctgcagaa gttggatggg cccacagagc agtgccttc ggcgtgcctt ttgcggccg 8880
 311 gcaactgcac ggacgaggtg agtccccccgc caccggcgc tcctggcag ggacggcctc 8940
 312 caggtccagg gggagctggg cccagggtctg aggaatgttc ccagctggg gagagatgtt 9000
 313 gccattggag ggaggccggg cagccaccc ctgtgtgtc agttccacgg tacacactgt 9060
 314 ccgagtgtgg tgacgtgcgt gttcatcagg ccacgcgtgt gcccattctgt gtgagcaaac 9120
 315 acaggcccat gctgcacagg ctgggctgag ggtggcact cgggaagccc ggagccagcc 9180
 316 cttcccaacca gcagggtggc tcagaagggg cctggaggct ccaggatccc caaaccagca 9240
 317 gatctctga gccttaatt gtgtgtgaa tgacagcatg agccccctgt tgagctggc 9300
 318 cccgcagccg gcaggccctgg gcctggggac ggaggacact cagcaactggc ctgcctgaa 9360
 319 cttccatggc tgccatggaga ggcggggcct ccacctcccc tcctggctc cgcctccctgg 9420
 320 gttgggggtc tgcaccccttc ttggggcgtt actccacggg caggcacatc cggagtaggg 9480
 321 gatcccggtt tgacgggtca ctcccccaagg gccaagcaga gctctgcattt gccacagtgg 9540
 322 gtggaaagggg tggggctggg tacaaggaa cccgacaggc agagggtctc cccgcctggc 9600
 323 ctgccatggg tccttattcca gcaccgtggc agcccccatg gatggcaggg gtgcccagcc 9660
 324 tggcccaactg tgctccccag gagggcatct gccaccgcac cctgtgggg cccgcctttg 9720
 325 cggagtgcac cgcactgtgt gacagcaact cgtacccgtc cgcctgcggc caggacctgt 9780
 326 gccgcgtcccc cacccgtcccg tggccaccc ttgtggata ctcacgcac tgcccccacg 9840
 327 cggggggccca gccgcggaaac tggaggtggc ctgagctctg cccgtgatgtc tcccaggggcc 9900
 328 ttgcgcagggtt attgtgcac agagaagggg cagggggagc gccttgggg ccactgggg 9960
 329 tggggagggc tggggacag ggtgggggg cagaggaccc accccaggca tagtggcag 10020
 330 aggccacccc aggacccac ggggggggtt ggccggccgg ggctgcaggga gaaggagagg 10080
 331 cttgtggaga ggcttgcac gcagggtggc ggggtgggg ctggagggtg tagctgcctt 10140
 332 cgtatggggc cgtcaggcc accctggggc ctagctctgg ctgtgtggc ctgtatggc 10200
 333 tgtggaaaggc cgtggaaaggc ggctggggct gaccacacgg gcgtacagg gcccttcccc 10260

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/990,613

DATE: 02/21/2002

TIME: 12:00:54

Input Set : A:\UC072.001A-SEQ-ID.txt

Output Set: N:\CRF3\02212002\I990613.raw

334 tggcccagcc ccgcctcctt ttgcgcagcc cggacctgcc ccctcaacat gcagcaccag 10320
 335 gagtgtggct caccctgcac ggacacactgc tccaaccccc agcgcgcgca gctctgcgag 10380
 336 gaccactgtg tggacggctg cttctgcccc ccaggcagtg ctttgtgtgcc ctgaacccct 10440
 337 cagggggctt tcaggccct gtcaccaacc cccgcggccag cctcatcagg ccttggaaagca 10500
 338 gagccccctca tgccagaagg tcccaccaga gggcccaggg tgggaagggc actggctggg 10560
 339 agggtgtgg aagacactgcc gatgcgtgga gggaggtaga gcagtgcacat gagccagctg 10620
 340 ggcattgggg gaaaaactgag gcccagaggt gctttgtgtt catccaagcg aytgcagctc 10680
 341 agggcggggg cagtgtccct gaggcaggaat tccctcccaa gggaggcagc ttgtcccaa 10740
 342 ggcgcgtgtc ttctgacctt ggtgtcccc gtgcacatggc cggccctgcc tcacgcgcg 10800
 343 ccccacaggc acgggtgtgg atgacatcac gcactctggc tgcctgccccc tcgggcagtg 10860
 344 cccctgcacc cacggcggcc gcacccatcag cccgggcacc tccttcaaca ccacctgcag 10920
 345 ctcctgttac ttatgagccc accagccctc gcctgggggt ggggtgtggag ctcttggat 10980
 346 ttatgaaccc gccagccctc gcctgggggt ggggtgtggta gctccctgtgt tgcaaccacc 11040
 347 agcctccggc tgccgtgggg gtgtggaggg tggggccac ctccctccga catgcgggtt 11100
 348 ctgcctcagg ctcctccccc cagcacatgc tccggggggc tatggcagtgc ccaggacgtg 11160
 349 ccgtgcctg gcacccgttc tgcgtgggc gggggccaca tctccaccta tgcgtggaaa 11220
 350 ctctacgacc tgcgtggta ctgcacgtac gttctgtcca aggtctggc ttggggccgg 11280
 351 gtcttcagac acccagaccc tccctggacc ctcatgccac ttccacccag gggaggccccc 11340
 352 cacatggtc atagagggtt ggtatgtccct gtcgtggggg gagccctggg tcccatgtat 11400
 353 ggtcatagag ggtatggctt ccctgtgtgc cggcatgggg ccaaggagcc cccaggccct 11460
 354 gagacaagct gtcgtggaggt gaccagaggt gccaaggacc acctcccccac agagccacat 11520
 355 ccccccacatg ggcacccca gcacacttct gggggccacc ccacatcatc gagccaggcc 11580
 356 caatgcacgc gtgggtccctt ctcccccagaat atgtgcgcac agcagcttca ccgtgtggc 11640
 357 ttagctgcgg aagtgcggcc tgcacggacaa cgagaactgc ctgaaagcgg tgacgctcag 11700
 358 cctggacgcg ggggacacgg tgaggacctg gtcggggccc tgggtgtggta caggaagagg 11760
 359 catgcgaagg tgcgtgggg gcaagcacgg teagggtcccc ctccagccccc gagggcaggt 11820
 360 ccccccctcca gccccccaggc cagggtcccccc tccagccccc aggtcaggc cccctccag 11880
 361 ccctgagggtc aggtctccccc gggggggccaa ttgcacggcc caccgcaggc ccaggcctga 11940
 362 gtttctctgtt gggctctgtc cccagtgggg gcccctggc aggccacccc ctcatttgag 12000
 363 agtcggaaat gggttccctcc caagagctga cctcccgccc gcctcccttc gcagggccatc 12060
 364 cgggtccaag cggacggcgg cgtgttcctc aactccatct acacgcagct gcccctgtcg 12120
 365 gcaggatgtt ggctctccca ggcacggccgg gtcgggtggc gcctcgttgc agggcagct 12180
 366 cccacagccct gggcagcgtc cgctccatcc ctgcgtatcc tccgtggct cggcagctc 12240
 367 caggagctcc ctgtgtcggt tttctgtct gcagagtggg gatgcgcaggc tcccaaccccg 12300
 368 gcagcggcag ggaccccaaca tccagctcgc tcagcccccac tctctcaggc agcccggtct 12360
 369 ccacctgagc ccacccgtgc ggcacaggca tgggacaggg agcctgaggc tccctggcca 12420
 370 ctccctgggtc tcactcccccgtctcagg tgggtggccgg cccactggat gcctggccc 12480
 371 tccaatcttag ccagatctgt ccctgcaccc ctgaccggcc tctcccccac actccggca 12540
 372 gccaacatca ccctgttac accctcgagc ttctctatcg tgggtgcagac aggccctggg 12600
 373 ctgcacgtgc tgggtgcagct ggtgcacccatc atgcagggtt ttgtcaggct ggacccggcc 12660
 374 caccaggccc agatgtgcgg tgaggctgg caggggccctt cggggacagg gccattgggg 12720
 375 acggggcctg gactagcgcc aggctgcagg gaggggcagg cagaggcggg caggggacgg 12780
 376 gggaggggggc tgccccccagg gcatggcggc gatccctggc ccagcgcagg acaccagcat 12840
 377 tggaccagcg gccccccggcag cagccagctg ggaggatggc gccggcaggcc ctgcctggc 12900
 378 tcaggccgac tttgcacagg ggtgtggctt gcacaggccc cgactgcaca gggggccccc 12960
 379 cgcgcaggc ttatctgcag aggggtctgg gacgacatc ctgggacagg gtcacccagcc 13020
 380 gtttctaccct gttgtgtggcc tggaggatgc gcaaggccca gggcccaaca 13080
 381 gtggcccgctg acatccccca accctggccc ccagccctgt gtgggaactt caaccagaac 13140
 382 caggctgacg acttcacggc ctcagcggg gtgggtggagg ccacggccgc agccttcggcc 13200

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/990,613

DATE: 02/21/2002

TIME: 12:00:54

Input Set : A:\UC072.001A-SEQ-ID.txt

Output Set: N:\CRF3\02212002\I990613.raw

383 aacacctgga aggcccaggc tgcctgtgcc aatgccagga acagcttga ggaccctgc 13260
 384 tccctcagtg tggagaatgg tactcctcgc ccccaccccc acagtcaccc caggctcaag 13320
 385 tccccccagg caccttcctg tccccctggc cacggggacc cctgggtggg attggggacc 13380
 386 ccatggagc aggtgggagg catcaggagg aggtgcttgg gcccaggcgg ccagaacccc 13440
 387 ccaaggcgca gcagggtgagc cgcaattcc aactcaactgt tccccggct gagggggtcg 13500
 388 caggcctgctg tgtcagggtt gtgggcttgc gggcaggcgg tggagatgag gtcaggctt 13560
 389 cccccacaga aactacgccc ggcactgggt ctcgcgcctg accgatccca acagtgcctt 13620
 390 ctgcgcgtgc cactccatca tcaaccccaa gccctccac tcggtgagag gctgaggcca 13680
 391 gaccccccacg cctggcagg atgggtgggg gagccctggc aggctggggt ccctgacgcc 13740
 392 ccgacgcctc ccaccccgcc agaactgcat gtttacacc tgcaactgtg agcggagcga 13800
 393 gactgcctg tgcggcgcc tgcctcccta cgtgcacgccc tgcgcgcga agggcgata 13860
 394 gtcagcgac tggagggacg gctgtgcag tgagtgcaca cgctgggggt gggatgtgtc 13920
 395 cacaccgcgt gggggcggg gggaccctgg cccgcaggag cgctcaactca cacggttctc 13980
 396 agcccagagc ttgcacttc ctcatccaa cctcgaaga acctcatgcc cttgcgtatcc 14040
 397 ccacgtcaca gacggggatg ctgagttgaa gatggggct gccaggctg ctcggccgt 14100
 398 gacctgtccc ccctggccccc accgaccaca gccaagtaca tgcagaactg ccccaagtcc 14160
 399 cagcgctacg cctacgtggt ggtgcctgc cagccactt gccggggct gagtggggc 14220
 400 gacgtcacct gacggtttc ctgcgtgcgt gtggacggct gacactgccc cggggcacc 14280
 401 ttcctcaatg acgcggcgcc ctgtgtgcgc gcccaggagt gcccctgcata cgctcacggc 14340
 402 accgtgtctgg ctctggaga ggtggcgcac gacgaggcgg cctgtgtggta agggctctgg 14400
 403 gggaaagcag gccccccagg tgctcctcag agccacttcc cccctccccc gaaggcttct 14460
 404 gtgcctccccc cggagggttc tgagacacga gggggcaggc tggggagagt gggggcagggt 14520
 405 gaccccagca cattctgaag agaaaaattcc cagctggaa agaggccagg agaggaggtg 14580
 406 gccctggag gacacctgtc ggtgttctc agctgggtcc acatggcgc cctgcccagg 14640
 407 aaagggtgggt gccccccact cccaccctgg gctcaaaggc cgctcttaac cccagggtcc 14700
 408 tggctgtctt gctgcctccccc tgggtgtatt taccatgtg cctccagggg atttggggc 14760
 409 tcccagcaaa cacagcagca ggcacccgtc ggccttacaa ggaggtggcc aggctgggg 14820
 410 ggcccagcat tcggcggggg ctcggaagcc cgggggtggg gtctgcgggg tgaggccgc 14880
 411 agatccagggc tggctgtctt gtccttgc gttcatgtac ggggtgggaag ctaagctgcc 14940
 412 tgggagcctc tctgcagaaa agcacaggtt agtgccaccc ctgcctgccttgc 15000
 413 ccgcattcacc ccgcctggcc tggcccccac acgcacccacc ctgccttgccttgc 15060
 414 ctcgcgggc caggctcgtc ctcacccctgg ctctgcacca ggcacccatg ccctgacacg 15120
 415 ccaggcagg agggggcagg gggctctgc cccgcaggatg gcccgggtt ccctgggtt 15180
 416 gggggctgca ggtgtcatgg aagcttgc tcggggctg ttaacttgtt cagcaggaca 15240
 417 ggctcaggggc tgcctgggtt cagttgaggc ccttcccccag gaccctccc 15300
 418 accaagctct gtcctccagg tggcagccc ccatgggtt cctggactgc agcaacagct 15360
 419 cggcgccac ccctggggcc ggtgcctcc gtagctgcca cacgtggac gtggctgtg 15420
 420 tggatccat gttcaggga ggggtggca gggaaagggtt cccagcttc ccagctcccg 15480
 421 agcccagggc tctgggtgtc ctggagacac ttaccaccc ggaagctccg ccctggccca 15540
 422 tgcgtgtccc tgggtgtc tgggtgcgc tggccatgg ggtgagtttgc atctggccac 15600
 423 ctcgtgtcc agccctgacc ggtacccgtc tggggccac agttcagcac acactgcgt 15660
 424 tccggctgtc tctgtccccc ggggtgtggc tcggatggc gtggggctg cattggccag 15720
 425 gaggactgcc ctcgtgtgc caacggggcc acctacaagc ctggagagac catcagggtc 15780
 426 gactgcaaca ctcgtgtgggt cgtgacttc tcggaggcag caggtggggc gggcgccggc 15840
 427 gggggaggc gccccggggc aggccaggcgg caggaggggc agggggcggg gagggcagg 15900
 428 ggccagctgg ccagggtgag gtggggccgt ggcaggagag agagttgtca gggaaaggccat 15960
 429 gggcgctct gtcgtgtccc tggaaagggtt cccaggggcc atgggtctac caggagcctg 16020
 430 gtggggctgc gtgcgttgc ttcacagggtt gggacaccac ttcttccaccc gaggagggtt 16080
 431 caggctggc ctggggaggc tgaggccccc tgctgacccctg cacaggccctg ggtgcgggt 16140

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/990,613

DATE: 02/21/2002
TIME: 12:00:54

Input Set : A:\UC072.001A-SEQ-ID.txt
Output Set: N:\CRF3\02212002\I990613.raw

```

432 ctcaggaagg ccgggagagc aggcccctgt gagcaggcac cattgtggcc cttgcagca 16200
433 cctgcaggaa ccggaggtgg gagtgcagcc accggctctg cctggcacc tgcgtggcct 16260
434 acggggatgg ccacttcatc acctttgatg qcgatcgta cagcttggaa ggcagctgcg 16320
435 agtacatctt ggcccaggta cgccgcccccc tcgcccactc ctgcaggccc ggcacactcc 16380
436 agcccgccgc cagcagtttgc tctcttctg gcccaggact actgtggggaa caacaccacc 16440
437 cacgggacct tccgcacatgt caccgagaac atccccgtg ggaccaccgg caccacatgc 16500
438 tccaaggcca tcaagctt cgtggaggtg agaacggccc cagctgttag caccggc 16560
439 cctgcagcca acgagccggc ccccaaggaa gttcgttag gctttagctg caccacagg 16620
440 ttctcagcag tgtcctggcc cgggctgtct gttccaagca gccacaaacc agggggctta 16680
441 gacaacagaa atgcatttctc agtcctggag ccggaaatgtc gagatccagg cggcaggc 16740
442 cacactccct gtcgagggtc tggggagggtc ctccctgcct ctcccaatgtt cacaggc 16800
443 agcgccctt gggctgtggc tgccctgtggc ctccctgtgt gtctgcgtt gtcttcttc 16860
444 ttttttttc ttctgtctt ttaaggaca ctggcattt gatttagggc cccccccgc 16920
445 ccccaatgtt tccaggatgtc ttcatttca agatgttca cttaatcccg tctgcagaga 16980
446 tgcgttctcc cagtggggc cccggctgtt gttctggag ttcgcattgtt gacaggcatt 17040
447 ttccaggagcc acgatttacc ctgcacacc tagagacacc cactccatgtt aaggggggcc 17100
448 agagctccca gggataaaag cagcgccgtt ggcggatg ctccctgtt atggcgggag 17160
449 gggctgagga ccgcaggccgg tcaggggagg ctgggtgtt ggcgtggggg ctgcagggtt 17220
450 ggtatggggag cagggtgggg tggagtggcc ctactgcgtt ctctgtgtt cccgtgcagc 17280
451 cccaagggtt ccaggcagcc ctgttccca gcacttctt gccagcttct tgccaaacct 17340
452 tcaactgaggg ttcacggac ccagcttacc cttaaatgtt ggcgtttgtt ctaagagccc 17400
453 gtgcgcaccc tcaatgtt ggggtggggc tccctgggtt tcaggccctt ccctggggc 17460
454 cacagggtcg gcttcggca gctgttgcctt cccctgtt gctacgatgtt gatctccaa 17520
455 gagggggaccc ttaaggcgtt ggcgagagggtt cgggtgggg accccacccta caagatacgc 17580
456 tacatggggta ttctctgtt catcgatgtt cacggatgtt ccgtgttctt ggaccggaa 17640
457 accagcgtt tcatccgtt gtcaccaggatc tacaagggtt gtcggggcc ttgcacttcta 17700
458 ggccttcgtt gacccttca cagtgttccaa aaccctgggtt ccagggtgggg cctgtggac 17760
459 tgcgttgcgtt gtgggtgcgtt ggccttgcgtt ggtggggcc ctgcctgtgg cctccacagt 17820
460 gggcagaggtt ttgtcagggtt aaggcagggtt caccctgtt cccacccagg gaccactgc 17880
461 acacccgtt cttttttttt caccaggac tgcctggggc accggcttcc ctcctccat 17940
462 ccccccgggg ctcttgagcc cagggtgggg tctgtgtctt ctccttgcgtt tgcctgtggc 18000
463 cccatgttca gggcccccactt ctctcgctgtt ctcttgatgtt cagggttgcgtt ggcctgtgc 18060
464 ggaacttca cgcacatgtt atcaatgtt ttgcacccgtt tagccgggtt ttgtgggggg 18120
465 aegcacttgcg gtttggaaac agctggaaatc ttcctccctt ctgcggggc gcccggcac 18180
466 ccaaggaccc ctgcacggcc aacccttcc gcaagtccgtt ggcggcagaatc cagtcagca 18240
467 ttctccacgg ccccaatctt gccgccttcc gtccttgcgtt ggggtcttgg tcttggcagg 18300
468 cagggtctgtt tgggtgggtt agttgtttcc ttcccttccaa gaactgggtt ttcttggcagg 18360
469 acagcaggcc tccaaaggagg gtctgaccat gtcggccgtt acacacttcc tgcgttccat 18420
470 tcccaagtcc ggtatctcccg tcaaggccac acctgttgcctt ttgccttgcgtt gcaacaaggcc 18480
471 atcttggctt ttccctggcc actcccttgcgtt ccacatgttcc agtcacatcc agaggttcc 18540
472 agggagggggc agcccttat gtggcccttca gccacccttcc tctatgttcc ccagacatgc 18600
473 ccagtcctca gcaacaaatgtt gaaatgttcc gtcggccgtt gtcggccat gggaaatca 18660
474 gagatctgtcc tcaaggcaggatc acttccgttttcc gcaatgttcc tgcgttccat 18720
475 tgcgttgcgtt cccaggactt tgggtgggtt agggcagggtt atcaccgtt gtcaggatgtt 18780
476 tggatggccatc tgggtcaaca tggcgaaacc ccgttccatc aaaaaatataa aaaaatgttcc 18840
477 ggtgtgggtt tgcgttgcgtt taatcccgatc tactcggggatc gtcggccat gggaaatgttcc 18900
478 tgaacctggg aagaggaggatc tgcgttgcgtt caagatgttcc ccactgttccat ccagccatgtt 18960
479 caaaaatgttcc tcaaaaatgttcc aacaacaaaatgttcc aaccacaaaatgttcc cagtttgcgtt 19020
480 tcatcttaag gaagacttgcgtt gtggcccttcc aggcacacatgttcc catgggtggctt caggagatgttcc 19080

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/990,613

DATE: 02/21/2002

TIME: 12:00:54

Input Set : A:\UC072.001A-SEQ-ID.txt

Output Set: N:\CRF3\02212002\I990613.raw

481 gatgaggggc tggcgtaggg gcagcagtgg gcatactcgc tcgtggagg ccctgaagca 19140
 482 ctctcatgtc ggccgccgtc tgccctctt agaaggcagc tggtgacccc ttgaaaggtc 19200
 483 ctgtggctg acaaagctga gcccagggtc agatggggcc tgggagggt gtggctgcc 19260
 484 tggaggaagc aggcaagttc ccatggtcag gacgattca cagctcaact ccccggtgg 19320
 485 ctggctgtca aaggaagtga ccactccttc ctttagtgcac attcactggg tgccctgaaat 19380
 486 agcctggcat gttctggct cacccagtg atcaggggac gaggctgacc ctcacagagc 19440
 487 ttccagagga ggcagaaaagg cggtgggtgc tgggtggtc gatgctagga tggtggaggc 19500
 488 cctggccggg ggttggttcc gctggaggga aggccccag gtggaaagga gcccaagtacg 19560
 489 actgcagcgg agggaggtgg gggcgagggc agagggttaag caggggtct atgtccaca 19620
 490 tgggtttgaa acctgtggc cacatgacca gatccacgtg atagaaagat ccaaagagca 19680
 491 catgtgaagg caggcagatg ggcaggtgca tagtggggca ggtgcataagg tggcagatg 19740
 492 gacaggtggg cagatggca ggtggggcagg gatatagggt gacgaggggca cagggtggct 19800
 493 ggagaagtgc tggggcagct cccatttggg gcacgtctg aggtattcca ggcggcagg 19860
 494 gctcagagag ctgccccatggg ggggtgttcaa atacagatgg ttccagcaac tggccctggg 19920
 495 ccagccaccc cctggccggg gggggccatttgc tccggctgaa gctgcaccc tggccctaccc 19980
 496 gcaggttgcac tccaccaagt actacgagc ctgcgtgaaac gacgcgtgtg cctgcactc 20040
 497 ggggtggcagc tgcgagtgtt tctgcacggc tgggtgttgc tacggccagg cctgcccacga 20100
 498 cgcggggctg tgggtgttgc ggcggactcc ggacacctgc cgtgagtcgg gctctgtccg 20160
 499 tgggtgttgc ggggtggagct gctggggcag gggaggaggt gtggcagccct cggaaagggtc 20220
 500 attgacactgg gcctgagccg cacacagaca tccaaacacgc atgtgccttcc atgtgagtgc 20280
 501 acaagtttct atgcacagag gaagacatgt gcaaaaccac cagacaggtt gcccacat 20340
 502 gagacagctc ctaggggaca agagttccaa gggcagggt ggggaggtgg ggggaagggt 20400
 503 aggcacccacc cggccggaggc cctgcgttgc tggacaaggc ccgggtctgg ctctggggac 20460
 504 accggcccccc acggccgggg taggggctgc cctgcacaac aggggtgagg gctggggcg 20520
 505 cctcccttagc ctctggccctc tgggttttgc ctttgttgc tgacttctac aacccacatg 20580
 506 ggggtgttgc gtggactac cagccctgc gggcaccctg cttaaaaacc tgccggaaacc 20640
 507 ccagtggca ctgcctggc gacctgcctg gcctggaaagg tgaggggcag ctttttttgg 20700
 508 atggagcctc ctctccttgg gttcccgagt gtacgtgggg gggggggat cccaggggac 20760
 509 gcgggtgttgc ctccgtaaa ctgcacaaatg caaggcttgc gggcaggccc ctgtggctg 20820
 510 gtggggggcgt gctactccct gcagcatgaa gcccctggcgtt ggagagacta aaggggccctg 20880
 511 gtgagtcttc tgctcacccctt gccggcccta ggctgttacc cgaagtggccc acccagccag 20940
 512 cccttcttca atgaggacca gatgaagtgc gtggcccagt gtggctgttca cgacaaggac 21000
 513 gaaaaactact atgacgttgcg tgcaagggtc cccacagcgg agaactgttca gagctgggt 21060
 514 ggggggtgggaa agcggtggc gctggggggag caggcgtggg gaggcaggccc tgcaggctgc 21120
 515 ccccccaggcc ctcagctcgc ctctccccc ccccttagtaa ctgcacaccc agtggcatcc 21180
 516 achtgcgttca cagcccttgcg gtaaggaaag ggggggggg ttgtggggc ggtgaaggct 21240
 517 gggggcaggc gctcgaggc cctgggttgc tctggggctt ccatccccag cctgcaccc 21300
 518 cacctatgag gacaggaccc acagcttacca ggacgttcatc tacaacacca ccgtatgggt 21360
 519 tggcgctgc ttgatcgcca tctgcggaaag caacggcacc atcatcgaa aggctgtggc 21420
 520 atgtcctggc actccagccca caacggccatt caccttccacc accgcctggg tccccactc 21480
 521 cacgacaagt aaggccctgc tggctctctt gaggcccagt actgtctggg tgacaaggag 21540
 522 gacccctgg gctcttagtgc cagggttgcctt gtatggtagc gacagtccca atccactgac 21600
 523 cttccgggtctt ctgtcttaggg gtgcacggcc cctcaacacc ctgcgtgttcc caggggctc 21660
 524 cccacgaagc ctcagcacaa tgattgtatgg gatacccaa ggagacaata aagctttctt 21720
 525 gactccgtc ccatccctca gcacggccat tcccaaggccag ccagctccctt caaggccagg 21780
 526 ctgccaggcc ccagccctc atgcagaaac ggctctaacc aaggctgagg caggcactgg 21840
 527 gttcccccagt atcccacagg ggcaggccca gcccctgggaa aagggttccct tggggccct 21900
 528 ccacccatgtt gggccaggac tggaggatgc tgagccaggaa cccctttccc atgccccctt 21960
 529 caggccccggc cctcccggtc tccaccgtgtt gttcccgca ggtctgcgcg tggtccagct 22020

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/990,613

DATE: 02/21/2002

TIME: 12:00:54

Input Set : A:\UC072.001A-SEQ-ID.txt

Output Set: N:\CRF3\02212002\I990613.raw

530 ggtacaatgg gcaccgccc gagcccgccc tgggaggcgg agactttgag acgtttgaaa 22080
531 acctgaggca gagagggtac caggtatgcc ctgtgctggc tgacatcgag tgccggcgg 22140
532 cgcagcttcc cgacatgccc ctggaggaga tggcccgca ggtggactgt gaccgcattgc 22200
533 gggggctgat gtgcggcaac agccaacaga gtcccccgct ctgtcacgac tacgagctgc 22260
534 gggttctctg ctgcgaatac gtgcctctgt gcccccccc gccccccaggc accagccctc 22320
535 agccctccct cagtgccagc acggagccctg ctgtgcctac cccaacccag accacagcaa 22380
536 ccgaaaagac caccctatgg gtgaccccgat gcattccggtc gacggcgcc ctcacctcg 22440
537 agactgggtc cagctcaggc cccgtgacgg tcacccctc gccccccagg accaccacct 22500
538 gccagccccg gtgtcagtgg acagagtgtt ttgatgagga ctaccccaag tctgaacaac 22560
539 ttggagggga cgttgagtcc tacgataaga tcagggccgc tggagggcac ttatgccagc 22620
540 agcctaaggaa catagagtgc caggccgaga gcttcccaa ctggaccctg gcacaggtgg 22680
541 ggcagaagggt gcactgtgac gtccacttcg gcctgggtgtg caggaactgg gagcaggagg 22740
E--> 542 **gcgtttcaa gatgtgctac aactacagga tcc** 22773<210> 7
543 <211> LENGTH: 19
544 <212> TYPE: DNA
545 <213> ORGANISM: Homo sapiens
W--> 547 <210> SEQ ID NO:
E--> 547 <400> SEQUENCE: 7
548 gcggcaccac gagcatggc 19
E--> 550 <210> SEQ ID NO: 8

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/990,613

DATE: 02/21/2002

TIME: 12:00:56

Input Set : A:\UC072.001A-SEQ-ID.txt
Output Set: N:\CRF3\02212002\I990613.raw

L:542 M:254 E: No. of Bases conflict, LENGTH:Input:7 Counted:22775 SEQ:6
L:542 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:10
L:542 M:252 E: No. of Seq. differs, <211>LENGTH:Input:22773 Found:22775 SEQ:6
L:547 M:282 W: Numeric Field Identifier Missing, <210> is required.
L:547 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQUENCE ID NOS:6 differs:7
L:550 M:214 E: (33) Seq.# missing, SEQ ID NO:7